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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,586	11/24/2003	Chin-Hsin Chen	CFP-015390 (15745/420)	5788
23595	7590	04/05/2006	EXAMINER	
NIKOLAI & MERSEREAU, P.A. 900 SECOND AVENUE SOUTH SUITE 820 MINNEAPOLIS, MN 55402			GARRETT, DAWN L	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/721,586

Applicant(s)

CHEN ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 3-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office action is responsive to the response to the election of species requirement received March 21, 2006. Applicant has selected rubrene as the polycyclic aromatic compound, Alq3 as the organic metal chelate, and Formula 1 in claim 15 as the luminescent dye. Claims 1, 2, and 7-15 read upon the elected species. Claims 3-6 are withdrawn as non-elected.

Applicant appears to argue that the species are not patentably distinct. If such is the case, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or *clearly admit* on the record that this was intended, and the election requirement will be withdrawn. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission *may be used in a rejection under 35 U.S.C. 103(a)* of the other invention.

### *Claim Objections*

2. Although claim 4 is currently withdrawn, it is suggested that “the component (A)” be changed to “the condensed polycyclic aromatic compound” because claim 1 does not clearly specify a “component (A)”.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1, 2, 7-11 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Hatwar et al. (US 6,475,648).

Hatwar et al. discloses light-emitting devices comprising a light emitting layer comprising tris(8-quinolino aluminum) (Alq) and that the light emitting layer is sandwiched between an anode and a cathode (see col. 2, lines 64-67). Hatwar et al. discloses preferred materials for the luminescent dopant include DCM class materials per luminescent dye "Formula 1" of instant claim 15 (see col. 8, lines 3-6 and formulas col. 8-91). Hatwar et al. discloses polycyclic aromatic compound rubrene as preferred additional dopant (see col. 7, lines 5-7 and 50-62). Hatwar et al. exemplifies a device comprising Alq, rubrene and DCJT-B in the luminescent layer (see col. 11-12, Table 1, devices "F" and "H"). The properties required by claims 13 and 14 are deemed to be inherently met by the Hatwar et al. device, because the Hatwar et al. devices include the exact same compounds as required by the claims. Hatwar et al. is deemed to anticipate an organic electroluminescent device comprising a luminescent layer of polycyclic aromatic compound rubrene, DCM derivative luminescent dyes and organic metal chelate Alq<sub>3</sub>.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatwar et al. (US 6,475,648). Hatwar et al. discloses light-emitting devices comprising a light emitting layer with

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tris(8-quinolinato aluminum) (Alq) and that the light emitting layer is sandwiched between an anode and a cathode (see col. 2, lines 64-67). Hatwar et al. discloses preferred materials for the luminescent dopant include DCM class materials per luminescent dye "Formula 1" of instant claim 15 (see col. 8, lines 3-6 and formulas col. 8-91). Hatwar et al. discloses polycyclic aromatic compound rubrene as preferred additional dopant (see col. 7, lines 5-7 and 50-62). Although Hatwar et al. does not show an *example* of a device comprising the ratio of polycyclic aromatic compounds to organic metal chelate as required by claim 12, Hatwar et al. clearly discloses the ranges of concentration of various dopants in the Alq emission layer preferably include up to 25% exciton trapping dopant, which includes the rubrene derivative taught by Hatwar et al. (see col. 9, lines 60-65 and col. 7, lines 5-7 and 50-62). Furthermore, the luminescent dopant such as the DCM derivatives may be used in as little as 0.05% (see col. 9, lines 60-65 and col. 8, lines 3-6). It would have been obvious to one of ordinary skill in the art to have formed a device comprising a ratio of condensed polycyclic aromatic rubrene to organic metal chelate Alq within the range required by claim 12, because Hatwar et al. clearly discloses the ranges as suitable when forming the luminescent layer.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dawn Garrett  
Primary Examiner  
Art Unit 1774

April 3, 2006